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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Constantin Bucur

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Scott R. Faber

Grossman Tucker Perreault & Pfleger, PLLC

55 South Commercial Street

Manchester, NH 03101

EXAMINER

TIBBITS, PIA FLORENCE

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/812,802

Applicant(s)

BUCUR ET AL.

Examiner

Pia F. Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-20 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/28/05, 9/13/04/2</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the digital signal must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 9-11, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Balogh** [5894212].

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Balogh discloses in fig.1 a wake up circuit 10 comprising: a comparison circuit 32 adapted to receive a first signal representative of a charging current level [see column 3, line 10] provided to a battery via a path and a second signal representative of a predetermined wake up current level [see column 4, line 61] and to provide a comparison output signal in response to said first and second signal [see column 7, lines 1-3]; and an output decision circuit 32 adapted to receive at least said comparison output signal and a selector signal from a selector circuit 34, said output decision circuit providing one of said comparison output signal and said selector signal to a switch 36 to control a state of said switch, said switch coupled to said path [see column 4, lines 46-50].

Balogh discloses the claimed invention except for making the comparison circuit and the output decision circuit separate: it would have been obvious to one of ordinary skill in the art at the time the invention was made to make separable the comparison circuit and the output decision circuit in order to minimize an error due to a malfunctioning element, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). See MPEP 2144.04.

As to claims 2, 3, 5, 6, see remarks and reference above.

Official Notice is taken with regard to claim 4 since it is well known in the art to use an ADC in order to convert a signal that is a function of a continuous variable into a representative number sequence.

As to claims 9-11, see remarks and reference above.

As to the method claims 13-16: the method steps will be met during the normal operation of the apparatus described above.

**4.** Claims 8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Balogh**, as described above, in view of **Brainard** [5371456].

Balogh does not disclose said comparison circuit comprises an error amplifier, said error amplifier receiving said first signal and said second signal and providing said comparison output signal.

Brainard discloses a power controller uses an error amplifier, which has a constant signal input and a charge rate input from the charge rate sensor, and a control output, which is based upon the difference between the constant signal input and the charge rate input, to control the current across a battery [see column 3, lines 14-18]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Balogh's apparatus and include an error amplifier in the comparison circuit, as disclosed by Brainard, in order to control the current across a battery.

5. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Van Phuoc et al.** [hereinafter Van Phuoc][5633573].

Van Phuoc discloses in figures 1-23B an apparatus comprising: a first path configured to be coupled to a controllable DC power source 22; a second path configured to be coupled to a battery 10; a third path configured to be coupled to a system load 16, wherein said first, second, and third paths are coupled to a common node SMBUS [see fig.1]; a first switch S1 coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node; a second switch 55 coupled to said second path to allow selective coupling of said battery to said common node; and a wake up circuit 80 comprising a comparison circuit 76 and an output decision circuit  $\mu p$  [see fig.11], said comparison circuit adapted to receive a first signal representative of a charging current level provided to said battery via said second path and a second signal representative of a predetermined wake up current level of said battery and to provide a comparison output signal in response to said first and second signal, said output decision circuit adapted to receive at least said comparison output signal and a selector signal from a selector circuit IC32, said output decision circuit providing one of said comparison output signal and said selector signal to said second switch to control a state of said second switch [see column 21, lines 32-68]. Van Phuoc discloses the comparison circuit 76, the output decision circuit  $\mu p$ , and the selector circuit part of IC32. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make separable the comparison circuit 76 and the output decision circuit  $\mu p$  in order to simplify the battery controller IC32, since it has been held that

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constructing a formerly integral structure in various elements involves only routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). See MPEP 2144.04.

As to claims 18-20, see remarks and reference above.

### ***Allowable Subject Matter***

6. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 7: none of the references of record prior to applicant's filing date discloses, teaches, or suggests a wake up circuit comprising, *inter alia*, wherein said output decision circuit receives at least one additional input signal in addition to said comparison output signal and said selector signal, said at least one additional input signal being a maximum wake up charge time signal, said output decision circuit responsive to said maximum wake up charge time signal to provide said selector output signal to said switch if said maximum wake up charge signal is representative of a continuous time of said output decision circuit providing said comparison output signal exceeding a maximum time interval.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus: IEEE discloses an A/D converter converts a signal that is a function of a continuous variable into a representative number sequence.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

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Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

January 16, 2006

Pia Tibbits

Primary Patent Examiner

